Series III
Speeches and Writings, 1942-1967

Box 18, Folder 4

Published writings on tactics

NAVAL TACTICS

Naval Tactics consist of the manipulation and arrangement of forces to realize an eventual maximum application of force or power against an enemy. This involves the determination of the appropriate formations, and maneuvers or evolutions of single and/or groups of units in relation to each other, in order to obtain a most effective array of forces and weapons.

The distinction between strategy and tactics is in a senxse ~~arbritary~~ arbitary for sometimes the choice is determined by strategic necessity. Normally it may be said that the strategic situation leads up to the tactical and commences again upon completion of the tactical phase.

Tactics change from day to day commensurate with ~~thexfi~~ different conditions, especially those of scientific changes in weapons, ship design and equipment; It is a most complex field. The circumstances peculiar to each contact between forces determines the tactics to be used in the technical and professional handling of ~~each~~ the individual unit, its disposition or deployment, the conduct of the battle, and the final ex ploitation of success.

The most inmportant tactical maxim is ATTACK. In carrying out this maxim, basic tactics prepare ships and air units to execute in the the presence of an enemy, the combinations of evolutions by practice exercises and a regular methodical training, which accustoms units to maneuver and operate together.

The necessity for such intensive training is all the more urgent because the use of signals and lengthy messages during action must be restricted and minimized as much as possible. The constant practice of maneuvers in company with a commander indoctrinates the personnel with that commander's ideas; full benefit can only be derived from an assemblage of such units if each of them has received its own initiation in that indoctrination. Thus the art of tactics becomes a complete collection of naval geometry, duration, precision, and rigidity of movement.

The naval commander in any enterprise will usually find it necessary to design his own dispositions to meet the conditons as they actually exist at the specific moment. Definite rules cannot be drawn up governing the distribution of forces for all occasions. Units are apportioned to positions in a formation so that each will accomplish the purpose for which it was designed, properly support the other units of the formation , suffer only such losses as can be acceptable, and, at the same time direct its effort toward the appropriate physical objective of the commander.

An example of the above can be briefly illustrated by the modern carrier task force combination. The battleship can give and receive heavy blows but it is limited in its ability by its size and weight characteristics.

Hence it needs the aircraft carrier and its planes to protect it from the air attacks. The destroyer is required to protect both the battleship and the carrier from underwater attacks. Carriers and destroyers being lightly armed require in turn, the battleship and cruiser for self protection; and so on.

Ships may be comparable in speed but their tactical operational requirements might be so different that the problem of disposing them properly, and relative to one another becomes a most perplexing one. The air weapon exercises a very large and often predominant influence on tactics. The lack of air support, or its possession, has turned the scale in many battles. Likewise the gun, torpedo, mine, guided missile, radar, and atomic bomb , all seriously affect tactical dispositions and the deployment of units.

However, to subordinate tactics to the logical employment of weapons is to confine it to a rigid formula that the enemy can use as well as anyone else. It would therefore be imprudent to count upon a superiority so difficult to secure, as perfecting one's armament, to the extent of making it a basis of tactical ideas. Success in tactics results from, among other things, combinations of morale, weapons , and skill in maneuvering. Certainly a commander who is confident of his own skill and of his power to

wield his force as a ~~xxxxx~~ single machine, would prefer that weapon upon which he can base his calculations and throw out the element of chance as far as possible.

Hence the tactics of weapons must be subordinated to the tactics of concentration . There are two types of concentration; concentration of forces, and the concentration of fire. The first fights to utilize its weapons; the second utilizes its weapons to fight. To determine the method of fighting requires that the objective be specified. As the objective is always the destruction of the enemy, then that is also the aim, and tactics are the means.

The arrangement of the final deployment of forces must be such that it furnishes the major strength elements of freedom of action necessary to produce the desired effect. The important thing to remember is that the underlying idea of sound deployment is that its units mutually support each other and be so distributed as to facilitate timely concentration at the decisive time and place. Fundamental conditions that tactical maneuvers must satisfy are: (a) Do not disturb the gun firing.
(b) Permit immediate and continuous adaptation of prpper maneuvers.

The guiding principles underlying the motive for which tactics are designed are specified below, but their application will vary according to the special

circumstances connected with each encounter; these principles are: (a) To destroy the enemy's cohesion.
(b) To demoralize the enemy.
(c) To incite the enemy to give up the struggle by abandoning his stakes.

The means used to accomplish the above is by a concentration of forces which takes advantage of all opportunities born of the circumstances, thus bringing intc action all weapons according to their immediate needs. This concentration is obtained during part or all of the three important phases of enemy contact; the approach prior to the engagement the engagement itself, and the subsequent pursuit. The first requires skill, the second, vigor, and the third , tenacity.

During the period of the approach a few simple maneuvers forseen and practiced in advance serve to bring ships within proper position and upon this often depends the fate of the battle.

Two important factors of the battle or engagement are time and weather. The exact timing of the attack is almost of more importance than the actual material gain or loss resulting from it. An attack made a moment too soon maybe a false stroke into space; an attack a moment too late may miss an opportunity which will probably not occur again for months. The weather is as much a cause for thought and trouble to a commander as the actions of the enemy himself.

Two additional factors that must be taken into consideration during the engagement are: first the value of concentration, such that the total strength of a force amounts to much more than the mere addition of its parts; second, a decided superiority in fire power, other things being equal. These considerations if applied properly, are a pretty certain guarantee of victory in a naval fight.

Other tactical items of great importance during the engagement are the gun and torpedo ranges (for it is these which determine whether the fight will be at close or long ranges); sun and glare (as regards silhouettes and visibility) ; speed (particularly in avoiding submarine and air attacks); and the possibility of "capping" the enemy by crossing ahead of him and concentrating on him when only his forward or after batteries can bear.

The object in pursuit is to distribute one's forces in such a manner as to hurl them in a mass on the weak points of the enemy and to strike him a deadly blow at the start. This requires maneuvering with order and discipline, particularly if a night engagement has resulted in a melee. For in spite of the advantages of modern radar in locating objects at night, chance reigns supreme in most night engagements and all advantages are discarded with both forces almost placed on terms of equality.

In summary it may be stated that Tactics do not give victory but they furnish to those who make use of them, the <u>means</u> of obtaining a victory.

Naval Tactics

Tactics is defined in United States naval publications as

(a) The employment of units in combat

(b) The ordered arrangement and maneuver of units in relation to each other.

It can be readily understood from this definition that tactics are conditioned greatly by the type of weapons available, and therefore change as weapons themselves change. Prior to the invention of gunpowder naval tactics consisted primarily of bringing the opposing ships to extremely close quarters so that the crews could engage in hand-to-hand combat, much as soldiers on land. The development of gunpowder, the rifled gun, the airplane, and many other weapons, together with means for improving their accuracy, has opened constantly the range at which sea engagements are fought, and consequently has provided room for a great change in naval tactics.

In a surface engagement between fleets (as distinguished from an engagement between surface ships and aircraft) the dominant weapons are the main battery guns of the battleships which form the battleline. These guns are arranged in rotatable turrets in the forward and after parts of the ship and can fire to either side, but the guns forward cannot fire within an arc of about 30 degrees on either side of the stern, nor can the guns aft fire within an arc of about 30 degrees on either side of the bow. The tactics of the battleline are governed by the effort to bring the full weight of these main battery guns to bear simultaneously against the enemy ships. In accomplishing this the following principles are basic:

1. Bring all ships of the battleline into action against the enemy battleline at the same time.

2. Maneuver so that the range from each ship of the battleline to the nearest ship of the enemy battleline is about the same.

3. Keep each ship of the enemy battleline within range under effective fire.

In a modern fleet engagement the torpedo, carried by destroyers, and frequently by cruisers, is also a potent weapon. In order to defend the battleline against the torpedo, and at the same time put our own lighter ships in a position to launch a torpedo attack against the enemy battleline, destroyers and cruisers are usually stationed ahead and astern.

A fundamental principle of both land and sea warfare is concentration of force. It is an accepted rule in naval tactics that, other things being equal, the ratio of power between ships of identical types is as the square of the number of guns opposed. For example the advantage of four ships against two identical ships would be in the ratio of 16 to 4 or four to one. The ideal maneuver is therefore that which results in the concentration of all, or almost all, of a force against a portion of the enemy. In this manner the enemy is destroyed piecemeal. On land Napoleon was particularly adept at such tactics, and by having superior strength at the critical point he was able frequently to win battles against larger armies. A fleet in action is uniquely adapted to this principle of concentration. With its inherent mobility, and with modern means of communication its movements can be controlled and coordinated more readily.

In the days of sail the British developed the practice of attempting to gain a station to windward so as to be in a better position to press the attack and to concentrate their entire force on a part of the enemy's line. By such tactics the British were able to win many battles, including those of St. Vincent and Trafalgar, against fleets superior in number.

Even in modern times when sea battles are fought at comparatively long ranges it may still be possible to maneuver so as to concentrate the entire fire of the battleline against a portion of the enemy's. One method of accomplishing this is the dream of every fleet commander in battle, that is to maneuver so that his own battleline forms the head of a T across the enemy battleline which thus forms the stem of the T. In this manner the ships at the head of the enemy line, [redacted] being unable to use their after guns and being beyond supporting range of the rear ships, are under the concentrated fire of all guns of the opposing battleline. Although this advantage is more often than not difficult to achieve it has twice been accomplished in modern times. In the Battle of Jutland the British battleline successfully capped the T of the German battleline but the latter was able to extricate itself by a well executed 180 degree simultaneous turn of all ships, and launching a torpedo attack which forced the British to turn away and lose contact. Again, in October of 1944, Rear Admiral Oldendorf of the United States Navy succeeded in crossing the T of the Japanese forces attempting the transit of Surigao Strait. In this latter instance the Japanese forces were virtually annihilated while

the United States forces suffered little damage.

Concurrent with the appearance of radically different and highly effective weapons comes widespread predictions that gun duels between surface forces are forever past. After the battle between the Monitor and Merrimac, in the Civil War, many people predicted that no warship would again be built without armor, that the gun would never be able to overcome shipborne armor, and that the only means of sinking ships would be by ramming or torpedoes. In the battles of the Coral Sea and Midway, World War II, the opposing warships did not come within sight or gun range of each other. These were battles between ships and aircraft. The resultant prediction was that opposing fleets would never close to within gun range of each other.

In all the above mentioned cases the predictions have been wrong. Unarmored warships are still being built. Under proper conditions the gun projectile still penetrates the heaviest armor and sinks ships. Subsequent to the battles of Coral Sea and Midway numerous gun actions between surface units have occurred.

It is true, however, that the airplane has made remote the possibility of a classic battleline action between fleets representing virtually the whole of a nation's seapower. In World War II the most formidable naval striking power was obtained by the employment of task forces built around the aircraft carrier but containing battleships, cruisers, and destroyers. The battle tactics employed by such a task force consist of an air phase wherein the opposing carrier aircraft inflict as much damage as possible upon the opponent while the ships are still well beyond gun range. During this phase the anti-aircraft batteries of all surface ships are used to protect the task force as a whole, and the aircraft carrier in particular. This air phase is usually decisive and results in the destruction or withdrawal of the ships of one side. Should the air phase be indecisive and the airpower of each is neutralized, the battleships, cruisers and destroyers are then organized to continue the contest in a gun action. These tactics utilize the versatility of the modern man-of-war.

While the airplane has reduced the possibility of surprise contact between enemy surface forces it has not eliminated it altogether. Under many conditions of adverse weather the airplane is not fully effective. Frequently night gun

actions are sought in order to reduce the aerial threat.

Prior to World War II surface actions at night or under conditions of low visibility usually resulted in a melee. This normally worked to the advantage of the inferior force and consequently action under such conditions were frequently avoided by the superior force. At Jutland the superior British fleet avoided a night action because of the fear of a general melee. The development of radar has enabled the naval commander to track his own and enemy ships and permits the control of gunfire under all conditions of visibility. This has resulted in more frequent night battles at sea.

One major difference between the tactics used in land and sea battles is the method of employment of reserves. Land battles frequently last for days or even weeks. Man's stamina does not permit him to remain in combat constantly over so long a period. Consequently reserves are practically always retained out of combat so that they can replace the physically exhausted or numerically depleted forces. Of land warfare it has been said that he who throws in his reserves last will win the battle. In naval battles the issue is decided in an incredibly short time, sometimes in only a few minutes, seldom in longer than a few hours. Under such conditions the first preoccupation of the naval commander is to insure that none of his ships is in reserve but that all are in mutually supporting positions for adding their fire effect to enemy units.

NAVAL TACTICS

Naval tactics is the science and art of maneuvering naval ships and aircraft to achieve and maintain favorable array for combat. Naval tactics changes with the employment of new methods, with the advent of new weapons, and with the invention of devices making possible more adroit and skillful performance. While it is possible to perceive and use all of these advances during peace time, it is during war that they are perfected in great numbers and dramatized by their successful application.

During the days of the sailing ship, naval engagements were frequently fought by an individual ship against an enemy ship. In these days, engagements between fleets also took place, and the superb naval tactics of Nelson at TRAFALGAR and at COPENHAGEN lend him immortal fame. The development of steam vessels into battleships, cruisers, and destroyers made the naval part of our Spanish-American War into a matching of fleet against fleet, with big ships and heavy guns the central scheme of naval tactics. For years preceding World War I, and also subsequent to it, until the rise of air power at sea, the battle line was the foundation of naval tactics. At JUTLAND we saw two huge fleets of battleships, supported by cruisers and destroyers, and the naval battle fought out to destruction was the ultimate objective.

The airplane was first used in combat during World War I. Its primary function was reconnaissance, and its numbers were few. Except in the minds of the imaginative and farsighted, it failed to indicate the revolution in naval methods which the

later effectiveness of air power has brought about. The submarine, however, came of age during World War I and successfully challenged the control of sea areas and the safety of the allied sea communications, even though these communications were protected by strong surface fleets. Neither of these new weapons, the airplane and the submarine, was given, during the intervening years between World War I and World War II, full recognition of the influence that it was destined to have on naval tactics.

In the spring of 1940, after the NORWAY compaign, it was generally acknowledged that no longer could naval surface ships operate close to land from which they could be subjected to repeated attacks of large numbers of land-based planes. Yet before the end of World War II, such operations were again successfully carried out because of the presence within the naval forces of superior air strength based on large numbers of aircraft carriers. The lesson learned was that surface ships cannot operate without danger of serious damage or destruction in sea areas where they do not have local air superiority. The result was the evolution of the carrier task force and the inauguration of the air-sea naval force. The Fifth Fleet was able to do at OKINAWA what the British Fleet could not do off NORWAY.

It is well at this point to examine the naval methods in using ships and planes which go to make up what we call naval operations. From the general viewpoint, the chief naval mission is to keep sea communications open for our own use, and to prevent the enemy from using sea communications for his benefit. This is called command of the sea. To exercise this command requires surface, air and submarine operations of a variety of types. Broadly these operations are classified as: (1) raids and sweeps, (2) amphibious assaults including over-seas movements, (3) attacks on enemy overseas trade, (4) attacks

on enemy naval lines of communication and defense of our own, (5) defense of coasts and critical focal areas, (6) support of coastal land operations, and (7) blockade. Naval tactics, then, comprises the methods used, singly and in combination, by surface, air, and submarine units to accomplish these things.

In World War II a number of important developments took place which profoundly affected naval tactics. These were the extension of range and increase of striking power of aircraft, the employment of new weapons and techniques in large scale amphibious operations, the increased offensive effectiveness of the submarine, the development of new effective countermeasures to combat the submarine, the increased use and effectiveness of reconnaissance by aircraft and submarine and the increased effectiveness of logistical support produced by rapid base establishment and the large scale use of mobile service units. All of these significant developments caused a change in naval tactics. New types of vessels, planes and weapons were produced in numbers heretofore unheard of to enable naval forces to perform the operations named above. New instruments such as radar permitted more efficient use to be made of ships and planes especially during the periods of fog or darkness. Some examples of the new developments are the large carrier forces by which superior air strength was brought against the enemy in raids against land objectives, such as the strikes on TOKYO, and on the air fields of LUZON prior to the LINGAYEN landing; the large numbers of rocket ships used in support of numerous amphibious landings; or even the Japanese human guided missiles employed in the Kamikaze attacks against our fleet units.

In World War II there were no battle line actions in which

heavy-gun ships supported by other types were engaged in fleet battle. Instead, there emerged the carrier task force in which were integrated battleships, cruisers, destroyers and other vessels, with air striking power the predominant weapon. This was the most dramatic of the new methods of naval procedure, i.e., of the use of naval tactics for exercising sea control. Another example of naval tactics, no less important, was the extending of sea control by capturing enemy islands in large scale amphibious assaults for the purpose of securing and establishing new land air bases ever nearer to the enemy's vital areas, thus extending strategic bombing effectiveness. Yet another was the escort of vital convoys, across sea areas in which enemy submarines were many and potent, by using a combination of escort carriers and destroyers; this method was a skillful naval tactic made particularly effective by advanced weapons, instruments, and search devices. And one more example of the new naval tactics was the centrally directed submarine operation against enemy shipping, comparable, in principles of control and command, to the strategic air force operations.

The advent of the atomic bomb, the guided missile, and other new weapons will bring about changes in naval tactics, but the fundamental naval operations named obove, and the objectives for which they are carried out, will remain. The heavy fast rocket ship may, instead of the carrier, be the nucleus of the striking force of a future day, but whatever the development, it is the Navy's responsibility to devise and examine each new change in weapons and technology and keep constantly able to use our combinations of naval and air forces to exert superior power

at sea. The science and art of maneuvering naval ships and aircraft to achieve and maintain favorable array for combat will be the naval tactics of that future time.

Naval Tactics

Tactics, representing an immediate or local aim, is differentiated from strategy which represents a larger, further, or more fundamental goal. Tactics employed for a purpose other than that of contributing to the aims of strategy is unsound. Proper tactics, therefore, has a strategical background.

Naval tactics is defined as the employment of units in combat and the ordered arrangement and maneuver of units in relation to each other.*

Tactical methods will vary considerably with the development of new weapons and new degrees of mobility. Prior to the invention of gun powder, naval tactics consisted of bringing the opposing ships together at extremely close quarters so that the crews could engage in hand-to-hand combat. The increase in offensive power thru development of gun powder, the rifled gun, the torpedo, the airplane, the bomb, the atomic bomb and guided missiles, to say nothing of many other weapons, together with the means for improving their accuracy; the changes in motive power from oars to sails, from sails to steam, from steam to oil engines, with their corresponding increases in speed, cruising range and maneuverability; the increase in defensive power of ships thru the development of steel hulls, armor, and compartmentation; all of these developments have opened steadily the range at which sea engagements are fought and, consequently, have forced great changes in naval tactics. These changes gradually occur through evolution, as scientific dis-

covery improves weapons, ship design and equipment. They are not made immediately but usually only after an unduly long period. This appears to be so because changes in tactics have to overcome the inertia of conservatism which opposes change. As Mahan so ably points out, conservatism is something that military men must be constantly alerted against lest they fail to speedily adopt the method of using a new weapon to the qualities it possesses.

For many years the gun was the basic weapon in action between surface ships, and the main battery guns of the battleships provided the dominant gun power. The tactics of such an action was governed by the effort to bring the full weight of the main battery guns to bear simultaneously against an inferior concentration of the more important enemy ships. Later, the gun was augmented by the automotive torpedo, carried generally by destroyers and cruisers, and tactics was again modified to provide, not only means of making torpedo attacks, but also for methods of avoiding them.

Although sea battles today are fought at comparatively long ranges, it still may be possible under some conditions such as night action or low visibility, where air power is relatively ineffective, to so maneuver the heavy ships as to concentrate the entire fire of the guns of own heavy ships on a portion of the enemy's and thus overwhelm him. One example of this was the Battle of Surigao Strait in October 1944 where the Allied task force succeeded in night action in crossing the "Tee" of the

Japanese forces and completely destroyed them with little damage to itself. This meant that the Allied ships were able to form the head of a Tee in which the enemy column was the stem. This was a beautiful example of the principle of concentration of force, and is based in part on the so-called N^2 law. This law states that assuming equality of individual ships and of skill and morale of the personnel, the initial ratio of fighting strength of two opposed forces is the ratio of the squares of the number of ships in the respective forces. In the case of a force whose Tee is being crossed, the only ships whose fire is effective in the N^2 law are those immediately in the van, whose forward guns bear, whereas all of the guns of the ships of the crossing force are generally effective. This is an indication of the high initial fighting strength ratio obtained by the force crossing the Tee.

With the advent of the airplane, the main battery gun lost its dominant position, as the range of aircraft, carrying bombs, torpedoes, or rockets was well beyond that of the guns. For this reason, an air action usually took place before the guns of the surface ships could be brought to bear. The air action was very often so decisive as to result in the destruction or withdrawal of the opposing force before it had closed to gun range. This type of action was governed by the effort to bring a superiority of air power into offensive action at the earliest practicable moment against the enemy forces, as the opponent who

strikes the first effective blow gains a decided advantage in an action of this nature. These air attacks were usually opposed by defending fighters, by high angle anti-aircraft guns and by maneuver.

The advent of the atomic bomb, guided missiles and other new weapons will, no doubt, force new developments in the design of ships and aircraft, their means of defense, their maneuverability, and in their tactical dispositions.

The development of ~~the controlled rocket~~, the guided missile and the pilotless aircraft or some other unforeseen development may, in time, relegate the piloted aircraft and the carrier to the supporting role to which the latter forced the capital ship and the gun.

Naval Tactics

Tactics, representing an immediate or local aim, is differentiated from strategy which represents a larger, further, or more fundamental goal. Tactics employed for a purpose other than that of contributing to the aims of strategy is unsound. Proper tactics, therefore, has a strategical background.

Naval tactics is defined as the employment of units in combat and the ordered arrangement and maneuver of units in relation to each other.

Tactical methods will vary considerably with the development of new weapons and new degrees of mobility. Prior to the invention of gun powder, naval tactics consisted of bringing the opposing ships together at extremely close quarters so that the crews could engage in hand-to-hand combat. The increase in offensive power thru development of gun powder, the rifled gun, the torpedo, the airplane, the bomb, the atomic bomb and guided missiles, to say nothing of many other weapons, together with the means for improving their accuracy; the changes in motive power from oars to sails, from sails to steam, from steam to oil engines, with their corresponding increases in speed, cruising range and maneuverability; the increase in defensive power of ships thru the development of steel hulls, armor, and compartmentation; all of these developments have opened steadily the range at which sea engagements are fought and, consequently, have forced great changes in naval tactics. These changes gradually occur through evolution, as scientific dis-

covery improves weapons, ship design and equipment. They are not made immediately but usually only after an unduly long period. This appears to be so because changes in tactics have to overcome the inertia of conservatism which opposes change. As Mahan so ably points out, conservatism is something that military men must be constantly alerted against lest they fail to speedily adopt the method of using a new weapon to the qualities it possesses.

For many the gun was the basic weapon in action between surface ships, and the main battery guns of the battleships provided the dominant gun power. The tactics of such an action was governed by the effort to bring the full weight of the main battery guns to bear simultaneously against an inferior concentration of the more important enemy ships. Later, the gun was augmented by the automotive torpedo, carried generally by destroyers and cruisers, and tactics was again modified to provide, not only means of making torpedo attacks, but also for methods of avoiding them.

Although sea battles today are fought at comparatively long ranges, it still may be possible under some conditions such as night action or low visibility, where air power is relatively ineffective, to so maneuver the heavy ships as to concentrate the entire fire of the guns of own heavy ships on a portion of the enemy's and thus overwhelm him. One example of this was the Battle of Surigao Strait in October 1944 where the Allied task force succeeded in night action in crossing the "Tee" of the

Japanese forces and completely destroyed them with little damage to itself. This meant that the Allied ships were able to form the head of a Tee in which the enemy column was the stem. This was a beautiful example of the principle of concentration of force, and is based in part on the so-called N^2 law. This law states that assuming equality of individual ships and of skill and morale of the personnel, the initial ratio of fighting strength of two opposed forces is the ratio of the squares of the number of ships in the respective forces. In the case of a force whose Tee is being crossed, the only ships whose fire is effective in the N^2 law are those immediately in the van, whose forward guns bear, whereas all of the guns of the ships of the crossing force are generally effective. This is an indication of the high initial fighting strength ratio obtained by the force crossing the Tee.

With the advent of the airplane, the main battery gun lost its dominant position, as the range of aircraft carrying bombs, torpedoes or rockets was well beyond that of the guns. For this reason, an air action usually took place before the guns of the surface ships could be brought to bear. The air action was very often so decisive as to result in the destruction or withdrawal of the opposing force before the opposing forces had closed to gun range. This type of action was governed by the effort to bring a superiority of air power into offensive action at the earliest practicable moment against the enemy forces, as the opponent who

strikes the first effective blow gains a decided advantage in an action of this nature. These air attacks were usually opposed by defending fighters, by high angle anti-aircraft guns and by maneuver.

The advent of the atomic bomb, guided missiles and other new weapons will, no doubt, force new developments in the design of ships and aircraft, their means of defense, their maneuverability, and in their tactical dispositions.

The development of the controlled rocket, the guided missile and the pilotless aircraft or some other unforeseen development may, in time, relegate the piloted aircraft and the carrier to the supporting role to which the latter forced the capital ship and the gun.

With the advent of the airplane, the main battery gun lost its dominant position, as the range of aircraft, carrying bombs, torpedoes or rockets, was well beyond that of the gun. For this reason, an air action usually took place before the guns of the surface ships could be brought to bear. The air action was very often so decisive as to result in the destruction or withdrawal of the opposing force before it had closed to gun range. This type of action was governed by the effort to bring a superiority of air power into offensive action at the earliest practicable moment against the enemy forces, as the opponent who strikes the first effective blow gains a decided advantage in an action of this nature. The air strikes by planes of United States carrier forces on the Japanese carrier force at the Battle of Midway, Hawaiian Islands June 1942, wherein four Japanese carriers were destroyed, with the loss of but one American carrier, was an excellent example of the devastating result of striking the first effective air blow.

Throughout World War II, defense tactics of Allied Task Forces against an attack underwent repeated changes. The best defensive tactics proved to be, in order of effectiveness, (a) defending fighters, (b) anti-aircraft fire with ships so disposed as to make this fire most effective, and (c) by maneuver of surface ships. As the Allied Task Force defensive tactics increased in effectiveness, the Japanese were faced with the problem of perfecting a more effective offense. This was a difficult matter because their best

pilots were dead and most of the new pilots were youths with insufficient training. They then decided that the best tactics would be to crash the airplane on the deck of the enemy rather than to attempt to strike the ship with bombs or torpedoes—in other words, to employ the plane as a guided missile. This was a remarkably successful tactics and was called by the Japanese, a "Kamikaze" or "Divine Wind" attack, whereas, by the Allies, it was called a "Suicide Plane" attack, as the pilot was invariably sacrificed with his plane. As the war ended, the Japanese produced a new rocket-propelled, piloted, guided missile called the "Baka" bomb. The effect of these kamikaze attacks was viewed with intensive interest throughout the world, as this was the first appearance in the Pacific War of the guided missile and the first appearance of this advanced type of guided missile in the world.

The advent of the atomic bomb, guided missile and other new weapons will, as shown above, force new developments in the design of ships and aircraft, their means of defense, their maneuverability, and in their tactical dispositions.

The development of the guided missile and the pilotless aircraft or some other unforeseen development may, in time, relegate the piloted aircraft and the carrier to the supporting role to which the latter foced the capital ship and the gun.

In summation, Naval tactics, to obtain success, involves the appropriate deployment disposition and maneuver of all forces, groups, ships and aircraft for promoting such a superior concentration of

power on a vital part of the enemy that the enemy cannot withstand it, and is overcome. In promoting this concentration, the deployment of forces must be so designed that its groups and units mutually support each other and are so distributed as to facilitate timely superior concentration. The maneuvers made must take advantage of all opportunites for bringing into action all weapons according to the immediate needs of the situation. The deployment made, the dispositions chosen and the maneuvers must contribute towards the countering of any similar action on the part of the enemy towards one's own forces. In accomplishing this, the ability of the Commander in the art of war will be given its ultimate test, for it is during the swift-moving action of the tactical engagement that his mental ability to solve military problems, and his moral capacity to command, experience the maximum pressure of events.

(C)

NEW
28 May 1968

NAVAL TACTICS

General

Tactics, representing an immediate or local aim, is differentiated from strategy which represents a larger, further, or more comprehensive goal. Tactics employed for a purpose other than that of contributing to the aims of strategy is unsound. Proper tactics, therefore, has a strategical background.

Naval tactics is defined as the employment of units in combat and the ordered arrangement and maneuver of units in relation to each other. It is important that logistics provide adequate combatant materials during the strategical phase, as the tactics employed in combat is often dependent upon logistic considerations. In this connection logistics is defined as the provision of the physical means (men, material, facilities and services) for the conduct of military operations.

Historical

Tactical methods will vary considerably with the development of new weapons and new degrees of mobility. Prior to the invention of gunpowder, naval tactics consisted of bringing the opposing ships together at extremely close quarters so that the crews could engage in hand-to-hand combat. Since then, developments in weapons, propulsion, and ship construction have steadily opened the ranges at which sea engagements are likely to be fought and consequently have forced great changes in naval tactics.

The most significant of these developments have been: the increase in offensive power through development of gunpowder, the rifled gun, the explosive shell, the torpedo, the airplane, the bomb, the family of atomic weapons, and missile systems, to-

gether with the means for improving their accuracy; the improvements in propulsive power from oars to sails, sails to steam, coal to oil, and today to nuclear power, with corresponding increases in speed, cruising range and maneuverability; and the increase in defensive power of ships through the continuing development of steel hulls, armor and compartmentation (the sub-dividing of the ship into water-tight compartments).

For many years the gun was the basic weapon in action between surface ships and reached its highest development in the main battery guns of the battleships. The battle tactics of an action between battleships was governed by the effort to bring the full weight of the main battery guns to bear simultaneously against an inferior concentration of the more important enemy ships. Later, the gun was augmented by the automotive torpedo, carried generally by cruisers, destroyers, and submarines, and battle tactics were again modified to provide not only the means for making torpedo attacks, but also for methods of avoiding them.

Then, in World War II, since the range of aircraft carrying bombs, torpedoes, or rockets was well beyond that of the gun or the shipboard torpedoes, these latter weapons lost their dominant position to the airplane.

World War II

In World War II (and this is applicable to both the Allied forces and to the Axis) the necessity for carrying the war to the enemy led to the rapid development of new weapons, equipment, and techniques, which in turn forced the development of new tactics and operating procedures on a scale and of a nature not previously visualized. Taking the U. S. effort in the Western Pacific Ocean for an example, these new tactics and operating procedures required:

(a.) The extension of naval air power primarily through carrier-based aircraft, and secondarily, through land and tender-based aircraft where the latter were usually seaplanes based on an auxiliary ship, known as a tender. This extension was necessary to cover and support amphibious operations, to carry out aerial reconnaissance and to assist in aerial blockades. The amphibious operations were largely undertaken for the purpose of seizing advanced bases from which land-based and tender-based aircraft could operate and to provide anchorages for the fleet.

(b.) The improvement in amphibious techniques which, in the case of the Allies, stemmed largely from the amphibious doctrines which had been developed before World War II. These new techniques embraced the forming of an integrated striking force under a single command; the preparation and isolation of the target area by intensive naval gunfire and by air bombardment by carrier-and-land-based aircraft; continual and progressive reconnaissance; a coordinated strong assault in selected landing areas; the continued support of the ground action by naval gunfire and air bombardment, and the landing of supplies and equipment; and finally, the consolidation, development and exploitation of the objective which in military parlance means the reorganization of the military forces after the successful landing, the buildup of the captured area and finally the employment of that area toward the accomplishment of the further objective.

(c.) The improvement in submarine and antisubmarine techniques which stemmed largely from advanced techniques in submarine employment. This was highlighted by the use of wolf packs against both merchant shipping and combatant vessels. (A wolf pack is a coordinated group of two or more submarines largely operated against convoys and generally controlled locally.) The results were highly effective, partly because Japanese

antisubmarine techniques were relatively poor. By contrast, in the Atlantic, German submarines often operating in wolf packs in the convoy lanes, were at first extremely destructive against Allied supply lines. But as Allied strength increased and anti-submarine techniques improved, the effectiveness of German submarine warfare waned markedly.

(d.) The development of mobile replenishment groups to provide legistic support of the fleet in advanced sea areas. These groups, in the case of the Japanese, were primitive at best; but in the case of the Allies, they were quite advanced and were composed of many types of auxiliary vessels specifically designed or modified for their highly specialized mission. These ships operated normally as near the fleet striking force operating areas as the existing situation permitted and kept the fleet supplied with fuel, provisions, ammunition, airplanes, personnel and often mail.

Throughout World War II, the defense tactics of both the Allies and the Japanese naval forces against air attack underwent repeated changes. In order of effectiveness for the Allies, the best defensive tactics proved to be, (a) defending airborne fighter aircraft, (b) anti-aircraft fire with ships so disposed as to make this fire most effective, and (c) maneuver of surface ships. In the case of the Japanese, their defense tactics likewise underwent similar repeated changes.

Eventually, as their defense tactics failed and as the war neared its end, the Japanese, as a measure of desperation, began to employ Kamikaze or suicide plane tactics: the planes, generally armed with one or more bombs, would be crashed by their pilots into the enemy vessel. These Kamikaze attacks were viewed with intense interest everywhere as this was the first appearance in the world of this type of missile.

Present and Future

In view of the numerous and continued improvements in weaponry, in radical new developments such as reconnaissance satellites, and in the new techniques of warfare, it seems clear that battle tactics must necessarily change likewise. For example, carrier striking force offensive operations may employ either conventional or nuclear weapons. In case of a general nuclear war both would be used, capitalizing on the attack carriers' special ability to bring the air base to the most suitable launching position along the peripheries of the land masses of the world. In the case of limited war, the carrier's operations would be oriented toward her conventional weapon capabilities, such as in support of ground operations, as in Vietnam. In this connection, despite the danger of escalation which might involve massive retaliation, the carrier based attack force would normally have the flexible capability of employing tactical nuclear weapons should the situation require.

Carrier striking force defensive operations presently employ interceptor-type aircraft for defense against air attack, augmented by missiles and by such deception methods as random dispersion (the dispersion of units of a force in such a haphazard manner as to make their location and identification very difficult, time consuming and expensive in terms of the search effort) and electronic countermeasures which are electronic devices and/or techniques designed to impair enemy operational effectiveness.

Submarine offensive operations will include, in the case of general nuclear war, the delivery by the nuclear-powered missile-firing submarine of long-range ballistic missile strikes against vital targets, often deep within the land masses of the world. Nuclear attack submarines may employ either conventional or atomic-explosive torpedoes,

or a combination of torpedo and short range surface-to-surface missiles. One of their primary missions is to seek and destroy enemy submarines, but they may also be employed against enemy surface forces and merchant shipping. Conventional submarines may continue to be used for certain special missions, or for those where their lack of nuclear propulsion will be of little or no significance.

Amphibious operations are being oriented gradually toward the employment of helicopters (vertical envelopment) to land assault forces well inshore, particularly where there are no suitable seacoast landing areas. Meanwhile, the employment of landing craft to land assault forces on the beaches which was so successful during World War II, continues to be a basic capability. In Vietnam this capability has been extended inland into the rivers and is generally referred to as "Riverine Warfare" or as Inshore Warfare. It encompasses the projection of military power inland from suitable waterborne small craft of various types with infantry units embarked, and supported by helicopter gunships and an extensive communications and control network.

Mobile replenishment operations today have increased flexibility, versatility and capability over World War II operations. This has been accomplished through the use of automated transfer systems for ship to ship fuel and stores delivery, and by the use of helicopters for the transfer of dry stores.

In summation, naval tactics, in order to obtain success, involves the appropriate deployment, disposition, and maneuver of all forces, groups, ships, and aircraft so as to achieve such a superior concentration of power on a vital part of the enemy that he cannot withstand it. In promoting this concentration, the deployment of forces must be so designed that the groups and units mutually support each other. They must be so

distributed as to facilitate timely superior concentration, which of course means that a superior concentration of fire power from whatever source can be delivered at the proper time and place. Such maneuvers must take advantage of all opportunities for bringing all weapons into action according to the immediate needs of the situation. The deployment which is made, the dispositions which are chosen, and the maneuvers of the forces must contribute toward the countering of any similar action on the part of the enemy. In accomplishing this, the ability of the Commander in the art of war will be given its ultimate test, for it is during the swift-moving action of the tactical engagement that his mental ability to solve military problems, and his moral capacity to command, are tested to the utmost.

Written for and accepted by [redacted]
Encyclopedia. Not to be used without
permission of [redacted]. RDB.

NAVAL TACTICS

General.

Tactics, representing an immediate or local aim, is differentiated from strategy which represents a larger, further, or more comprehensive goal. Tactics employed for a purpose other than that of contributing to the aims of strategy is unsound. Proper tactics, therefore, has a strategical background. 44

Naval tactics is defined as the employment of units in combat and the ordered arrangement and maneuver of units in relation to each other. It is important that logistics provide adequate combatant materials during the strategical phase, as the tactics employed in combat is often dependent upon logistics considerations. In this connection logistics is the provision of the physical means (men, material, facilities and services) for the conduct of military operations. 71

Historical.

Tactical methods will vary considerably with the development of new weapons and new degrees of mobility. Prior to the invention of gunpowder, naval tactics consisted of bringing the opposing ships together at extremely close quarters so that the crews could engage in hand-to-hand combat. However, the developments in weapons, propulsion, and ship construction over the years have steadily opened the ranges at which sea engagements are likely to be fought and, consequently, have forced great changes in naval tactics. 81

The most significant of these developments have been the increase in the offensive power, through development of: gunpowder, the rifled gun, the torpedo, the airplane, the bomb, the special weapons (nuclear) and missiles, and missile systems, ~~weapons, such as the rocket,~~ together with the means for improving their accuracy; the changes in advanced motive power from oars to 53

sails, from sails to steam, and later to oil engines as well, and today to nuclear power, with corresponding increases in speed, cruising range, and maneuverability; and the increase in defensive power of ships through the development of steel hulls, armor, and compartmentation (the sub-dividing of the ship into water-tight compartments).

For many years the gun was the basic weapon in action between surface ships, and the main battery guns of the battleships provided the dominant gun power. The battle tactics of such an action was governed by the effort to bring the full weight of the main battery guns to bear simultaneously against an inferior concentration of the more important enemy ships. Later, the gun was augmented by the automotive torpedo, carried generally by cruisers, destroyers, and submarines, and battle tactics were again modified to provide not only the means for making torpedo attacks, but also for methods of avoiding them.

Then, in World War II, since the range of aircraft-carrying bombs, torpedoes, or rockets was well beyond that of the gun or the shipboard torpedoes, these latter weapons lost their dominant position to the airplane.

World War II.

In World War II (and this is applicable to both the Allied forces and to the Japanese) the necessity for carrying the war to the enemy led to the rapid development of new weapons, equipment, and techniques, which in turn forced the development of new tactics and operating procedures on a scale and of a nature not previously visualized. In the Western Pacific Ocean, these new tactics and operating procedures required:

(a) The extension of naval air power primarily through carrier-based aircraft, and secondarily, through land and tender-based aircraft where the latter are usually seaplanes based on an auxiliary ship, known as a tender. This extension was necessary in

order to cover and support amphibious operations, as well as for aerial reconnaissance and to assist in aerial blockades. The amphibious operations were normally undertaken for the purpose of seizing advanced bases from which land-based and tender-based aircraft could operate.

(b) The improvement in amphibious techniques which, in the case of the Allies, stemmed largely from the amphibious doctrines which had been developed before World War II. These new techniques embraced the forming of an integrated striking force under a single command; the preparation and isolation of the target area by intensive naval gunfire and by air bombardment by carrier- and land-based aircraft; continual and progressive reconnaissance; a coordinated strong assault in selected landing areas; the continued support of the ground action by naval gunfire and air bombardment, and the landing of supplies and equipment; and finally, the consolidation, development and exploitation of the objective which in military parlance means the reorganization of the military forces after the successful landing, the buildup of the captured area and finally the employment of that area toward the accomplishment of the further objective.

(c) The improvement in submarine and antisubmarine techniques which stemmed largely from advanced techniques in submarine employment. This was highlighted in the latter part of World War II in the Pacific by the use of wolf packs against both merchant shipping and combatant vessels. (A wolf pack is a coordinated submarine attack group of two or more submarines generally controlled locally.) The results were highly effective, partly because Japanese antisubmarine techniques were relatively poor. By contrast, in the Atlantic, German submarines, often operating in wolf packs, were at first highly effective against Allied supply lines. But as Allied antisubmarine techniques improved, the effectiveness of German submarine warfare waned markedly.

(d) The development of mobile replenishment groups to provide logistic support of the fleet in advanced sea areas. These groups, in the case of the Japanese, were primitive at best; but in the case of the Allies, they were quite advanced and were composed of many types of fast-supporting vessels. These vessels operated normally as near the fleet striking force operating areas as the existing situation permitted; they were designed to supply fuel, provisions, ammunition, airplanes, and personnel.

Throughout World War II, the defense tactics of both the Allies and the Japanese naval forces against air attack underwent repeated changes. In order of effectiveness for the Allies, the best defensive tactics proved to be, (a) defending airborne fighter aircraft, (b) anti-aircraft fire with ships so disposed as to make this fire most effective, and (c) maneuver of surface ships. In the case of the Japanese, their defense tactics likewise underwent similar repeated changes.

Eventually, as their defense tactics failed and as the war neared its end, the Japanese began to employ Kamikaze or suicide plane tactics: The planes, generally armed with one or more bombs, would be crashed by their pilots into the enemy vessel. The effect of these Kamikaze attacks was viewed with intense interest everywhere as this was the first appearance in the world of this type of missile.

Present and Future.

In view of the numerous and continued improvements in weaponry, in radical new developments such as reconnaissance satellites, and in the techniques of warfare, it seems clear that battle tactics must necessarily change likewise. For example, carrier striking force offensive operations are presently oriented, in the case of a general nuclear war, toward special weapons-type capabilities, such as nuclear attacks upon vital targets along the peripheries of the land masses of the world and, in the case of limited war, toward

conventional weapon-type capabilities, such as in support of ground operations, as in Korea. In this connection, as discussed in the section on Naval Strategy, the employment of small nuclear weapons in limited war might invoke massive retaliation.

Carrier striking force defensive operations are presently oriented toward the employment of interceptor-type aircraft for defense against air attack, augmented by missiles and by such deception methods as random dispersion (the dispersion of units of a force in such a haphazard manner as to make their identification very difficult and often to cause the enemy to expend excessive search effort with the ensuing loss of the vital factor of time) and electronic countermeasures which are electronic devices and/or techniques employed to impair the operational effectiveness of enemy activity.

Submarine offensive operations are being oriented, in the case of general nuclear war, toward the delivery by the nuclear-powered missile-firing submarine of long-range ballistic missile strikes against vital targets, often deep within the land masses of the world.

Submarines employed as pickets operate at extended distances from the main units in order primarily to provide early warning of impending raids by the enemy. Conventional submarines are being oriented toward such defensive patroling pickets, sub-surface to surface missile firing, in attacks against shipping, in antisubmarine warfare, and possibly in screening, which is the interposition of the submarines between the force screened and the enemy for the purpose of shielding the operation in progress from hostile interference or observation.

Amphibious operations are being oriented gradually toward the employment of helicopters (vertical envelopment) to land the assault forces well inshore from the beaches. Meanwhile, the employment of landing craft to land the assault forces on the beaches, which was so successful during World War II, continues to be a basic capability.

Mobile replenishment groups are being oriented toward higher speed and more versatile logistic support ships in support of fleet operations.

In summation, naval tactics, in order to obtain success, involves the appropriate deployment, disposition, and maneuver of all forces, groups, ships, and aircraft in such manner as to achieve such a superior concentration of power on a vital part of the enemy that he cannot withstand it, and is overcome. In promoting this concentration, the deployment of forces must be so designed that the groups and units mutually support each other. They must be so distributed as to facilitate timely superior concentration which of course means that the distribution must be such as to insure that a superior concentration of fire power from whatever source, i.e. missiles, can be delivered at the proper time and place. Such maneuvers must take advantage of all opportunities for bringing into action all weapons according to the immediate needs of the situation. The deployment which is made, the dispositions which are chosen, and the maneuvers must contribute toward the countering of any similar action on the part of the enemy. In accomplishing this, the ability of the Commander in the art of war will be given its ultimate test, for it is during the swift-moving action of the tactical engagement that his mental ability to solve military problems, and his moral capacity to command, are tested to the utmost.